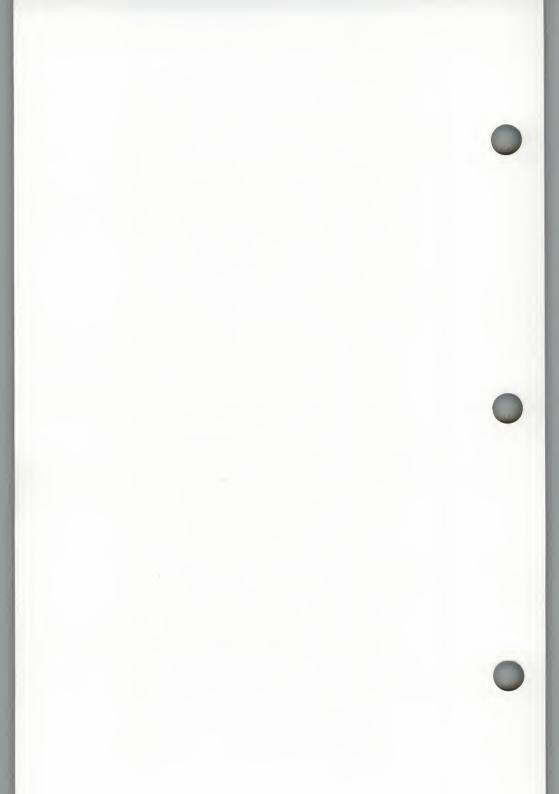
Postscript Interpreter Postscript Interpreter



PostScript Interpreter - PostScript Interpreter -

First Edition (October 1988)

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Read This First

This book was written for system programmers who are installing the IBM Publishing Systems - PostScript Interpreter - RT Edition and users of the IBM 6150 or 6151 who want to print documents on the IBM 4216 Personal Pageprinter. Read below to determine where you should start in this book:

If you are installing the program or if you are changing the printer defaults... Begin with Chapter 1, "Introducing the PostScript Interpreter" on page 1 and continue through Chapter 4, "Selecting and Installing Typefaces" on page 19.

If you want to print a document...

Go directly to Chapter 5, "Printing Your Document" on page 25. You'll find quick and easy directions for getting your printout.

Related Publications

The following books supplement information found in this manual:

- Installing and Customizing the AIX Operating System,

 System programmers need this book to learn about the devices command, which sets most of the printer functions and defaults.
- AIX Operating System Commands Reference,
 Everyday users need this book to learn about the print command, which is necessary to send jobs to the printer.
- AIX Messages Reference, and AIX Problem Determination Guide.
 Everyday users and system programmers need this book to learn about the AIX operating system error messages listed in this manual.

You may need to refer to the following manuals for additional information:

- IBM RT PC Guide to Operations
- IBM RT PC Problem Determination Guide
- IBM RT PC User Setup
- IBM RT PC Options Installation.

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Chapter 1. Introducing the PostScript Interpreter

The IBM Publishing Systems - PostScript Interpreter-RT Edition and the IBM Personal Pageprinter Adapter-RT Edition make it possible for you to use the IBM 4216 Personal Pageprinter with the IBM 6150 or 6151 Microcomputer. With the PostScript Interpreter, files created in the PostScript page description language can exercise the full capabilities of the printer.

With non-PostScript files, the PostScript Interpreter enables the 4216 Personal Pageprinter to emulate an IBM Proprinter XL.

The PostScript Interpreter supports both single-user and multi-user environments. It allows you a great deal of control over the printer functions for individual documents, while also allowing printer defaults to be set that can provide more efficient operation.

The PostScript Interpreter:

- distinguishes PostScript from non-PostScript files.
- automatically manages the fonts, including any additional Adobe fonts you may have installed on the system, needed to print the PostScript files.
- enables the printer to emulate the IBM Proprinter XL for non-PostScript files.
- supplies 43 fonts for printing.

Publishing Note: Throughout this document, the following are referred to as:

IBM Publishing Systems PostScript Interpreter-RT Edition	PostScript Interpreter
IBM Personal Pageprinter Adapter-RT Edition	adapter
IBM 4216 Personal Pageprinter	printer
IBM 6150 or IBM 6151 Microcomputer	RT

Defining Hardware and Software Requirements

The hardware requirements are:

- IBM 6150 or IBM 6151 Microcomputer
- IBM 4216 Personal Pageprinter, model 20
- IBM Personal Pageprinter Adapter-RT Edition.

The software requirements are:

IBM RT PC AIX Operating System, Version 2.1.2 or later

Installing and Using the PostScript Interpreter: A Typical Scenario

- Step 1 The system programmer installs the PostScript Interpreter program from diskettes to the RT's hard disk using the procedure described in Chapter 2, "Installing the PostScript Interpreter" on page 5.
- Step 2 The system programmer sets overall printer functions and defaults with the devices command as described in Chapter 3, "Managing Your Printer and Adapter" on page 7.
- Step 3 The system programmer, as an option, modifies printer functions, defaults, and font selection by editing the Initialization Job, which is described in Chapter 3, "Managing Your Printer and Adapter" on page 7.

This step is not required as the defaults are already set and the program automatically manages the necessary fonts.

- Step 4 You can begin printing on the printer by submitting jobs with the **print** command as described in Chapter 5, "Printing Your Document" on page 25.
- Step 5 If you want defaults and fonts other than those set in step 3 and you expect to use these same defaults and fonts for several other jobs, use the -cachesave and -cacheuse flags with the print command to save and reuse the defaults and fonts. These flags are described in Chapter 7, "Managing Your Fonts" on page 31.
- Step 6 The system programmer can repeat steps 2 and 3 as needed.

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Chapter 2. Installing the PostScript Interpreter

The PostScript Interpreter is installed on your system by using the installp command, which is described in the AIX Operating System Commands Reference.

Programming Note: To use the **installp** command you must be logged in as a member of the system group or operating with superuser authority.

Warning: Before you install the PostScript Interpreter, restart your system and be sure that no other users are on the system and no other programs are running.

Follow these steps to install the PostScript Interpreter on your system:

- Type installp and press enter.
 This command starts the installation procedure.
- 2. When prompted, insert into the diskette drive, the PostScript Interpreter program diskette labeled 1 of 3, and press enter.
- 3. Continue until the PostScript Interpreter program diskettes, 2 of 3, and 3 of 3, are installed on the system.

This completes the installation procedure.

Chapter 3. Managing Your Printer and Adapter

There are two tasks associated with managing your printer and adapter: adding the adapter to the system and customizing the Initialization Job.

Adding the Adapter to Your System

You (or the system programmer) must use the **devices** command to add your adapter to the system. The AIX operating system must be notified that the adapter has been added to the system configuration. If the system is not notified, you receive an error message when you try to print something through the adapter. (The AIX operating system does not recognize the adapter.)

Programming Note: To use the **devices** command, you must be logged in as a member of the system group or you must have superuser authority.

To add the adapter to your system, enter devices and then follow the instructions on the menu for adding a device of class *printer* and type of 4216.

The devices command and associated menus are described in more detail in *Installing and Customizing the AIX Operating System*.

Customizing the Initialization Job

The Initialization Job is a PostScript print job that initializes the adapter with the commands that control the printer operation. The Initialization Job can also be thought of as a printer profile that contains a series of defaults, such as character pitch, that help you control the appearance of your document. The Initialization Job is started when:

- The system unit is started.
- A print job is cancelled while printing. When another **print** command is issued, the Initialization Job is started.

For most applications, you do not need to change the Initialization Job defaults. However, you can customize your printer defaults by using an editor to change the default values in the Initialization Job. The Initialization Job's file name is setup.ps and its path name is /usr/lpp/4216/etc/setup.ps.

Before you customize the Initialization Job, review the information in "Comparing Printer Values and Defaults" on page 17.

Programming Note: In order for the Initialization Job to define the printer values, the PostScript **exitserver** command requires a password be included in the Initialization Job. You should be careful that this password is not made available to unauthorized users.

Customizing the Initialization Job for PostScript Jobs

There are three sets of defaults you may want to customize in the Initialization Job: timeout, download fonts, and paper size. The default paper size is described in "Customizing the Initialization Job for Paper Size" on page 15. This section describes the other two defaults. You can change these defaults by editing the Initialization Job.

Modifying the Timeout Default

A timeout facility limits the amount of time the PostScript Interpreter waits for certain events. There are two timeouts that can be modified: job and wait.

The job timeout, if nonzero, limits the total amount of time the job runs; this protects the printer from being tied up by a PostScript that runs for too long. The default is zero, which means there is no timeout.

In the Initialization Job, the job timeout default looks like this:

- 0 %job timeout
- 60 %ignored
- 30 %wait timeout

To modify job timeout, change 0 to the desired value, in seconds.

The wait timeout, if nonzero, limits the time the PostScript Interpreter waits to receive additional input for a job that is in progress; this protects the printer from waiting too long for a job to be sent. The default is 30 seconds.

In the Initialization Job, the wait timeout default looks like this:

- 0 %job timeout
- 60 % gnored
- 30 %wait timeout

To modify wait timeout, change 30 to the desired value, in seconds.

Modifying Download Fonts

The PostScript Interpreter automatically manages font downloading. However, if you want to try to improve printing performance, you can select specific fonts you want downloaded when the adapter is initialized.

You can specify the fonts you want downloaded by adding them to the Initialization Job. The number of fonts you can specify is determined by the amount of storage space the fonts use on the adapter card. If you specify too many fonts, you can run out of storage space. You will have to experiment to determine the maximum number of fonts vou can download.

In the Initialization Job, the download fonts default looks like this:

- (ZapfChancery-MediumItalic) DownloadFont
- (AvantGarde-DemiOblique) DownloadFont

The above example does not cause the fonts to be downloaded: it is only an example. If you want to download a specific font, you need to delete the % sign and type the name of the font. You can add as many fonts as you need, provided you have enough storage space on your adapter.

For example, to download ITC Garamond Bold, ITC Zapf Chancery Medium Italic, and Palatino Roman fonts, modify the download fonts default to look like this:

(Garamond-Bold) DownLoadFont (ZapfChancery-MediumItalic) DownloadFont (Palatino-Roman) DownloadFont

Programming Note: The PostScript Interpreter recognizes fonts by their PostScript names. To download a specific font, you must use the PostScript name. Refer to Appendix D, "Comparing Typeface Names" on page 51 for comparison between the 43 typeface names and their PostScript names.

Customizing the Initialization Job for Non-PostScript Jobs

There are three sets of defaults you may want to customize in the Initialization Job: timeout, IBM Proprinter XL, and paper size. The default, paper size, is described in "Customizing the Initialization Job for Paper Size" on page 15. This section describes the other two defaults. You can change these defaults by editing the Initialization Job.

Modifying the Timeout Default

A timeout facility limits the amount of time the PostScript Interpreter remains in various states. The timeouts that can be modified are job and wait.

The job timeout, if nonzero, limits the total amount of time the job runs; this protects the printer from being tied up by a PostScript that runs for too long. The default is zero, which means there is no time limit.

In the Initialization Job, the job timeout default looks like this:

- 0 %job timeout
- 60 %ignored
- 30 %wait timeout

To modify **job timeout**, change 0 to the desired value, in seconds. The wait timeout is described in the following section.

Modifying the IBM Proprinter XL Defaults

The following table presents the IBM Proprinter XL emulation mode defaults. These defaults are contained in the Initialization Job and you can change them to meet your printing needs.

Name	Default	Function
slashedZeros	false	If set to true, zeros are printed with slashes through them.
autoLF	false	If set to true, a carriage-return character (13) results in a linefeed.
autoCR false		If set to true, a linefeed (10), vertical tab (11), or ESC J results in a carriage return.
codePage	850	Defines the code page (437 or 850) to be used if charSet2 is set to true.
charSet2	true	If set to false, the default character set is Character Set 1; otherwise it is Character Set 2.
condensed	false	If set to true, printing is done in a condensed pitch (17.1 characters per inch).
12срі	false	If set to true, printing is done at 12 characters per inch.
proportional	false	If set to true, activates proportional spacing. Character spacing is proportional to the width of the character, rather than a fixed pitch.
emphasized	false	If set to true, printing is done using Courier-Bold instead of Courier.
doubleHigh	false	If set to true, characters are scaled to twice their normal height.

Name	Default	Function
doubleWide	false	If set to true, characters are scaled to twice their normal width.
topOfForm	0.5	The distance, in inches, from the top of the page to the baseline of the first printed line on the page.
perfSkip	0	The number of lines to skip when avoiding the perforations between pages. If this distance is less than the sum of the non-printable areas at the bottom and top of the page, which is approximately three lines, the larger number is used.
usePerfSkip	false	If set to false, emulates the entire 66 lines per page, even though the lines at the very top and bottom of the page may be clipped or not printed.
waitTimeout 30		Sets the timeout wait value to be used for IBM Proprinter XL emulation.

Publishing Note: The text in the following example has been shortened in order to fit on this page.

In the Initialization Job, the IBM Proprinter XL defaults look like this:

/slashedZeros	false	%true
/autoLF	false	%true
/autoCR	false	%true
/codePage	850	%choices
/charSet2	true	%true
/condensed	false	%true
/12cpi	false	%true
/proportional	false	%true
/emphasized	false	%true
/doubleHigh	false	%true
/doubleWide	false	%true
/topOfForm	.5	%value
/perfSkip	0	%value
/usePerfSkip	false	%true
/waitTimeout	30	%number

To modify the IBM Proprinter XL defaults, change the default values in the Initialization job.

For example, if you want the zeros to print with slashes, change the /slashedZeros false to /slashedZeros true.

Customizing the Initialization Job for Paper Size

Whether you are printing a PostScript or non-PostScript job, you must specify the size paper you want to use for printing. You can use any one of the following standard page types:

- Printing area of 8.0 by 10.5 inches, centered on an 8.5 by 11 inch page with 0.25 inch margins on all four sides. This is the default.
- legal Printing area of 8.0 by 13.5 inches, centered on an 8.5 by 14 inch page with 0.25 inch margins on all four sides. This is the standard page type for legal-size paper.
- Printing area of 198 by 284 mm, centered on a 210 by 297 mm page. This is the standard page type for A4 size (ISO/JIS) paper.
- a5 Printing area of 135 by 197 mm, centered on a 148 by 210 mm page. This is the standard page type for A5 size (ISO/JIS) paper.
- b5 Printing area of 171 by 244 mm, centered on a 182 by 257 mm page. This is the standard page type for B5 size (JIS) paper.
- statement Printing area of 5.0 by 8.0 inches, centered on a 5.5 by 8.5 inches page. This is the standard page type for half-letter paper.
- **envelope** Printing area of a size that assumes that the left-hand edge of the envelope enters the printer first.

Notes:

- 1. For all paper sizes, the coordinate points (0,0) are located in the lower left-hand corner of the entire page when viewed with the long edge vertical.
- 2. For envelopes, the coordinate points (0,0) are located in the lower left-hand corner when viewed with the long edge horizontal.

In the Initialization Job, the paper size default looks like this: /letter true setdefaultpapersize

To change the **paper size**, shown in the above example, change **letter** to anyone of the standard page types.

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Comparing Printer Values and Defaults

When you configured your system with the devices command, you included some device information for your printer, such as character pitch. If you didn't, the device information is included in a file named /etc/ddi/pprinter. This file also contains device-dependent information for your system. A listing of this file is described in Appendix B, "Reviewing the /etc/ddi/pprinter Stanza" on page 39.

When you print a document, the system uses the printer values in both the /etc/ddi/pprinter and the Initialization Job to determine how to print your document. There may be an overlap between the printer values in the two sets of printer defaults. If there is an overlap, the printer values contained in the /etc/ddi/pprinter file take precedence over those of the Initialization Job.

If you have customized the Initialization Job and your output does not reflect the printer values in it, use the **devices** command to check the information contained in the **/etc/ddi/pprinter** file. You may need to modify those printer values or you may need to change your Initialization Job.

Programming Note: Additionally, by using the print command, and the flags associated with it, you can control printing of your document and bypass the printer values in /etc/ddi/pprinter file and in the Initialization Job. The print command is described in the next chapter.

Chapter 4. Selecting and Installing Typefaces

Selecting Typefaces

The PostScript Interpreter includes 43 typefaces. When you use the **print** command to print a document on the printer, the PostScript Interpreter automatically downloads the fonts necessary to print the document. Therefore, selecting fonts is made easy by the PostScript Interpreter.

The following tables list each of the 43 typefaces you may select for your document:

Typeface family	Typefaces
Courier	Medium, Oblique, Bold, Bold Oblique
Helvetica	Medium, Oblique, Bold, Bold Oblique
Helvetica	Black, Black Oblique
Helvetica	Light, Light Oblique
ITC Avant Garde	Demi, Demi Oblique, Book, Book Oblique
ITC Bookman	Light, Light Italic, Demi, Demi Italic
ITC Garamond	Light, Light Italic, Bold, Bold Italic
ITC Korinna	Regular, Kursiv Regular, Bold, Kursiv Bold
ITC Zapf Chancery	Medium Italic
ITC Zapf Dingbats	Medium
New Century Schoolbook	Roman, Italic, Bold, Bold Italic
Palatino	Roman, Italic, Bold, Bold Italic

Typeface family	Typefaces
Symbol	Medium
Times	Roman, Italic, Bold, Bold Italic

For a printed example of each of the typefaces listed above, see Appendix C, "Reviewing Typeface Samples" on page 41.

Installing Additional Typefaces

If you need additional typefaces, you can add them to the existing 43 typefaces by installing the typefaces on your hard disk. Once these typefaces are installed, the PostScript Interpreter automatically downloads these fonts when they are needed.

Note: Because the PostScript Interpreter is supplied by Adobe Systems Incorporated, any typeface added to the PostScript Interpreter must be supplied by Adobe Systems Incorporated.

Follow these steps to install additional typefaces:

1. Type installfonts

This command copies the typefaces to the RT and creates PostScript print job, which is named /tmp/installer.ps, to convert the typefaces into a format for automatic font management.

The following messages appear on your screen:

PostScript Font Installer for IBM RT Insert Printer Font Disk into diskette drive /dev/fd0, then press enter to install all PostScript fonts from the Printer Font Disk

2. Insert, into the diskette drive, the Adobe printer font disk from your Adobe package, and press Enter.

The following message appears:

Copying files from diskette:

3. As each font is copied, the following message appears with the name of the font that was copied:

XXXXXXX copied from font diskette...

4. When all of the fonts have been copied, the following messages appear:

Starting job /tmp/installer.ps on printer/printername. Fonts will be installed when job /tmp/installer.ps is completed. Job /tmp/installer.ps does not print any pages. Use print -q to check when job /tmp/installer.ps is completed. You may now remove the Printer Font Disk.

5. You can use the **print -q** command to verify that the /tmp/installer.ps file is finished.

Handling Typeface Installation Errors

The following is a list of error messages you might receive during the installation of additional typefaces.

IBM Personal Pageprinter not in system configuration. Use the devices command to add printer to the system.

Cause: Personal Pageprinter was not added to the system configuration when it was installed

Action: Use the devices command to add the printer to the system.

Diskette not present or does not contain font files.

Cause: Either there is no diskette in the diskette drive or there is a diskette in the diskette drive but it does not contain font files.

Action: Insert diskette with fonts into diskette drive.

Error copying font filename.PFB from diskette to /tmp/font filename.PFB.

The font will not be installed.

Cause: Either the source diskette is defective or there is a problem with the diskette drive.

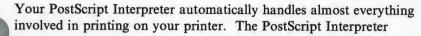
Action: Check the font diskette for defects; if none are found refer to either your Guide to Operations or Hardware, Maintenance, and Service manual.

Error reading /tmp/font filename.PFB. The font will not be installed.

Cause: The system was unable to read the font file.

Action: Review the error message in the AIX Messages Reference.

Chapter 5. Printing Your Document



- distinguishes PostScript from non-PostScript files.
- automatically manages the fonts needed to print the PostScript files.
- tells the printer to emulate the IBM Proprinter XL for non-PostScript files.

Because the PostScript Interpreter functions automatically, all you have to do is use the **print** command to print your document. (The **print** command and its flags are more fully described in the AIX Operating System Commands Reference.)

Printing a PostScript File

To print a PostScript file, type:

print printername filepath/filename

If you encounter a PostScript error while printing (or attempting to print) a job, refer to Appendix A, "Understanding PostScript Error Messages" on page 37 for information.

Programming Note: The PostScript Interpreter includes a unique flag with the print command. The flag is -ds = ps which informs the printer that the file is a PostScript file. Using the flag is not required because the PostScript Interpreter examines the first character of the file and if the first character is a %, the PostScript Interpreter prints the file as a PostScript file. If the first character is something other than %, the file prints as an ASCII file (IBM Proprinter XL emulation mode).

Printing a Non-PostScript File

To print a non-PostScript file, type:

print printername filepath/filename

If you need more information about using the printer to print in IBM Proprinter XL emulation mode, refer to "Customizing the Initialization Job for Non-PostScript Jobs" on page 11.

Programming Note: The PostScript Interpreter includes a unique flag with the print command. The flag is -ds = ppxl which informs the printer that the file is a non-PostScript file. Using the flag is not required because the PostScript Interpreter examines the first character of the file and if the first character is not %, the PostScript Interpreter prints the file as a non-PostScript file.

Printing a Listing of a PostScript File

If you want to print a listing of your PostScript file or document, issue the **print** command with the **-ds = ppxl** flag.

Although the file is a PostScript file, the file prints as an ASCII file (IBM Proprinter XL emulation mode) without any of the PostScript commands used, because you specified the -ds = ppxl flag.

To print a listing of a PostScript file, type:

print -ds=ppxl printername filepath/filename

Monitoring PostScript and Printer Status

When you are printing jobs, you can monitor the status of the PostScript Interpreter and the printer.

The printer utilizes the following indicator lights on its operator panel: ADD PAPER, ADD TONER, CHECK, JAM, ONLINE, OPC, POWER ON, and READY.

The function of each indicator light is described in your printer Guide to Operations manual.

The PostScript Interpreter utilizes the center bar of the display indicator, which is located on the printer operator panel:

Status	Display Indicator	
Idle	The light is off while the printer is in the idle state or while paper is being printed.	
Busy	The light flashes once every two seconds while the PostScript Interpreter program is running.	
Waiting	The light flashes twice every two seconds while the PostScript Interpreter is running a user job, but is off while waiting to receive more data.	
Error	The light flashes steadily several times per second when the PostScript Interpreter has detected an error. The adapter must be re-initialized by typing reload4216.	

Chapter 6. Printing Using Redirection

Many commands read input from the keyboard (standard input) and write output to the display (standard output). You can redirect a command to read its input from a file and write the output to a file or both. Therefore, you can use redirection to print the output of a file. (Refer to AIX Operating Systems Commands Reference for more information on redirection.)

Programming Note: The simplest method for printing a file is to use the **print** command.

Follow these steps to print a file using redirection:

1. If the adapter is not initialized, type:

reload4216

This initializes the adapter by printing a null job, which is **primary.output**. When the null job completes, you can continue onto the next step.

2. If you are printing a PostScript file, type:

splp -ascii /dev/lpθ

(where **lp0** is the printer name.) This sets up the printer to print a PostScript file.

3. If you are printing a non-PostScript file, type:

splp +ascii /dev/lpθ

(where lp0 is the printer name.) This sets up the printer to print a non-PostScript file.

4. Type the command and file you want redirected to the printer. For example, using the cat command, type:

cat filename > $/\text{dev}/1p\theta$

This prints the contents of the file.

Programming Note: When you use redirection to print your document, the following conditions apply:

- Do not use redirection when the printer is printing another job. Redirection can only be used when the printer is not in use.
- The only fonts downloaded to the adapter are those specified in the Initialization Job; there is no automatic downloading of fonts.
- PostScript error messages are suppressed when you use redirection to print a PostScript job.

Chapter 7. Managing Your Fonts

When a typeface or font is required during printing, it is held temporarily in a font cache. The font cache contains fonts in two forms: an outline form that describes their shape and a raster form that is used for printing. Once a character is rasterized, it does not need to be re-rasterized each time it is used. Rastering the fonts takes some time, which is why the first page of a multipage document often takes much longer to print than the succeeding pages.

When the cache is full, the oldest rastered fonts it contains are discarded, leaving the most recently rastered fonts.

A font cache file lets you save the rastered fonts so that the next time they are printed they do not have to be re-rastered, which could improve print time.

If you frequently use the same set of fonts for a particular type of document, print the document and save the font cache as a file after printing. You can now reuse the font cache each time you print a similar document.

Additionally, you can use a font cache as a default cache that is automatically downloaded onto the adapter when the adapter is initialized. Using this method eliminates the need to specify which font cache you want to use when you print a document.

The following text describes how to create default cache and cache font files. The text also describes how to use both caches.

Creating a Default Cache File

If you find that you often need fonts not available as rasterized images on the adapter and you tend to use the same fonts repeatedly, it may be a good idea to create a default cache file that automatically downloads those fonts when the adapter is initialized.

The PostScript Interpreter contains a default cache file, default.che, which contains the following rasterized characters:

- A full set of 94 characters for use in IBM Proprinter XL emulation mode at 10 and 12 characters per inch.
- Sets of 81 characters for Times Roman, Courier, and Helvetica Medium at 8, 10, 12, and 14 point sizes.
- Lowercase alphabetic characters for Times Bold, Courier Bold, and Helvetica Bold at 10, 12, and 14 point sizes.

If you want to create your own default cache file, follow these steps:

- 1. Make a copy of the **default.che** file and then rename it. You should make a copy of **default.che** in case you want to switch back to the fonts that were stored in it.
- 2. Print a document that contains all of the fonts you use most often and want downloaded each time the adapter is initialized. It is necessary to print a document because the PostScript Interpreter must get the fonts from your print file. To print a file and create a default font cache file, type:

print -cachesave = |usr|lpp|4216|etc|default.che printername filepath|filename

This creates a new **default.che** file with the fonts that were used to print the document. Each time the adapter is initialized, the fonts in the **default.che** file are downloaded onto the adapter.

Creating Font Cache Files

You can store rasterized fonts in cache files to be recalled and used for subsequent print jobs by including the -cachesave = cachefilename flag on the print command, as shown below:

print -cachesave = cachefilename printername filepath/filename

Using Font Cache Files

If you want to use the rasterized fonts you stored in your font cache, use the -cacheuse = cachefilename flag on a later print job, as shown below:

 $\begin{tabular}{ll} \textbf{print}-\textbf{cacheuse} = cache file name & printername & file path/file name \\ \end{tabular}$

Programming Note: Downloading your saved cache file also takes time, so if your cache file is large, you may have to experiment to determine whether downloading your cache file is faster than the automatic downloading of individual fonts.

Chapter 8. Solving Problems

Symptom: Printer light blinking continually

The printer light is blinking continually.

Solution: Re-initialize the adapter by typing **reload4216**. This resets all printer functions.

Symptom: Editing the Initialization Job doesn't change the output

You've called up the Initialization Job, edited, and replaced it. When you run a print job, the output doesn't reflect the changes you made in the file.

Solution: The /etc/ddi/pprinter file may be overriding your changes in the Initialization Job. Use the devices command to compare the printer values in the /etc/ddi/pprinter with the Initialization Job. See "Comparing Printer Values and Defaults" on page 17 for more information.

Symptom: A PostScript file looks like a non-PostScript file

On occasion, you may send a PostScript file to your printer only to have it printed as a PostScript listing with none of the PostScript commands interpreted by the PostScript Interpreter.

Solution: Use the -ds = ps flag on the print command when you send the job to the printer. This allows you to print an unrecognized PostScript file (one that has been printing in Proprinter XL emulation mode) as a PostScript file. See "Printing a PostScript File" on page 25 for more information.

Symptom: Printer is printing, but the ONLINE light is off

Nothing is wrong. The printer was offline when the adapter was reset.

Solution: Press the ONLINE button to turn the light on.

Appendix A. Understanding PostScript Error Messages

The PostScript Interpreter displays PostScript error messages as they occur. The following list presents the syntax for the error messages. For specific PostScript error messages, refer to an appropriate PostScript manual.

%%[Error:error; OffendingCommand: operator]%%

An error has been detected by the PostScript Interpreter and the standard error handler has been invoked. **error** is the name of the error operator originally invoked and **operator** is the name of the operator run at the time of the error.

%%[PrinterError: reason]%%

A problem has been reported by the printer. The nature of the problem is described by reason. Some of these problems can include no paper, no paper tray, paper jam, and open cover. These errors are only displayed when the printer is printing (or trying to print). You can also determine the printer error by monitoring the printer indicators lights as described in "Monitoring PostScript and Printer Status" on page 27.

%%[Flushing: rest of job (to end-of-file) will be ignored]%%

Due to a previous error or other abort condition, such as a stop or abort-request interrupt, the remainder of the job is discarded. Characters are read and discarded from the standard input file until end-of-file indication is received.

%%[exitserver: permanent state may be changed]%%

The PostScript program may now make permanent changes to system parameters or to the system memory.

Appendix B. Reviewing the /etc/ddi/pprinter Stanza

The /etc/ddi/pprinter stanza contains printer values and device-dependent information for your system. The following is an annotated listing of entries that are specific to the PostScript Interpreter:

ds = any

Default for -ds = flag. Any means look for %, which indicates the file is a PostScript file.

adacode = /usr/lpp/4216/etc/ps.enc
File specification for PostScript Interpreter code

pssetup = /usr/lpp/4216/etc/setup.ps
File specification for initialization job

cachesetup = /usr/lpp/4216/etc/cachesetup.ps
File specification for job run after every cache is loaded

cache = /usr/lpp/4216/etc/default.che
File specification for default cache

fontdir = /usr/lpp/4216/fonts
Directory containing printer fonts

Appendix C. Reviewing Typeface Samples



The following are printed examples of the 43 typefaces supplied with this program:

Courier

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_`{|}~

Courier Oblique

abcdefghijklmnopqrstuvwxyz 0123456789
ABCDEFGHIJKLMNOPQRSTUVWXYZ
!"#\$%&'()*+,-./:;<=>?@[\]^ `{|}~



Courier Bold

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_`{|}~

Courier Bold Oblique

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_`{|}~ abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Helvetica Bold Oblique

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Helvetica

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Helvetica Oblique

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Helvetica Black

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~ Helvetica Black Oblique

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Helvetica Light

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Helvetica Light Oblique

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Avant Garde Demi

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@(\)^_'{I}~

ITC Avant Garde Demi Oblique

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@(\)^_'{|}~

ITC Avant Garde Book

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@(\)^_`{|}~

ITC Avant Garde Book Oblique

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@(\)^_`{|}~

ITC Bookman Light

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Bookman Light Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Bookman Demi

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Bookman Demi Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'0*+,-./:;<=>?@[\]^_'{|}~

ITC Garamond Light

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_{{|}}~

ITC Garamond Light Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_{{|}}~

ITC Garamond Bold

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Garamond Bold Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_{{|}}~

ITC Korinna Regular

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Korinna Kursiv Regular

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Korinna Bold

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Korinna Kursiv Bold

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Zapf Chancery Medium Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !*#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

ITC Zapf Dingbats

New Century Schoolbook Roman

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

New Century Schoolbook Italic

 $abcdefghijklmnopqrstuvwxyz\ 0123456789\\ ABCDEFGHIJKLMNOPQRSTUVWXYZ\\ !"\#$\%\&'()*+,-./:;<=>?@[\]^_'(|)~$

New Century Schoolbook Bold

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./;;<=>?@[\]^_'{|}~

New Century Schoolbook Bold Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Palatino Roman

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Palatino Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Palatino Bold

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Palatino Bold Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !''#\$%&'()*+,-.!:;<=>?@[\]^_'{|}~

Symbol

αβχδεφγηιφκλμνοπθρστυσωξψζ 0123456789 ABXΔΕΦΓΗΙθΚΛΜΝΟΠΘΡΣΤΥςΩΞΨΖ ! \forall # \exists %& \Rightarrow ()*+,-./:;<=>? \cong [.:] \bot _ {|}~

Times Roman

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Times Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Times Bold

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Times Bold Italic

abcdefghijklmnopqrstuvwxyz 0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ !"#\$%&'()*+,-./:;<=>?@[\]^_'{|}~

Appendix D. Comparing Typeface Names

The following table provides a comparison of the 43 typeface names with their respective PostScript names:

Typeface	PostScript name
Courier	Courier
Courier Bold	Courier-Bold
Courier Bold Oblique	Courier-BoldOblique
Courier Oblique	Courier-Oblique
Helvetica	Helvetica
Helvetica Black	Helvetica-Black
Helvetica Black Oblique	Helvetica-BlackOblique
Helvetica Bold	Helvetica-Bold
Helvetica Bold Oblique	Helvetica-BoldOblique
Helvetica Light	Helvetica-Light
Helvetica Light Oblique	Helvetica-LightOblique
Helvetica Oblique	Helvetica-Oblique
ITC Avant Garde Demi	AvantGarde-Demi
ITC Avant Garde Demi Oblique	AvantGarde-DemiOblique
ITC Avant Garde Book	AvantGarde-Book
ITC Avant Garde Book Oblique	AvantGarde-BookOblique
ITC Bookman Light	Bookman-Light
ITC Bookman Light Italic	Bookman-LightItalic
ITC Bookman Demi	Bookman-Demi
ITC Bookman Demi Italic	Bookman-DemiItalic
ITC Garamond Light	Garamond-Light
ITC Garamond Light Italic	Garamond-LightItalic

Typeface	PostScript name	
ITC Garamond Bold	Garamond-Bold	
ITC Garamond Bold Italic	Garamond-BoldItalic	
ITC Korinna Regular	Korinna-Regular	
ITC Korinna Bold	Korinna-Bold	
ITC Korinna Kursiv Regular	Korinna-KursivRegular	
ITC Korinna Kursiv Bold	Korinna-KursivBold	
ITC Zapf Chancery Medium Italic	ZapfChancery-MediumItalic	
ITC Zapf Dingbats	ZapfDingbats	
New Century Schoolbook Roman	NewCenturySchlbk-Roman	
New Century Schoolbook Italic	NewCenturySchlbk-Italic	
New Century Schoolbook Bold	NewCenturySchlbk-Bold	
New Century Schoolbook Bold Italic	NewCenturySchlbk-BoldItalic	
Palatino Roman	Palatino-Roman	
Palatino Italic	Palatino-Italic	
Palatino Bold	Palatino-Bold	
Palatino Bold Italic	Palatino-BoldItalic	
Symbol	Symbol	
Times Roman	Times-Roman	
Times Italic	Times-Italic	
Times Bold	Times-Bold	
Times Bold Italic	Times-BoldItalic	

Glossary

This glossary explains terms and abbreviations used in the manual.

The glossary contains terms and definitions from the IBM Vocabulary for Data Processing,

Telecommunications, and Office Systems, GC20-1699; that book includes entries (preceded here by an asterisk) from the American National Dictionary for Information Processing. Some definitions are preceded by either (ISO) or (TC97), indicating that they originate from the work of the International Standards Organization, Technical Committee 97.

If you do not find the term that you are looking for, try the index or refer to the *IBM Vocabulary*.

A

AIX. Advanced Interactive Executive.

adapter card. A supplementary hardware part, added to the system unit, that expands its basic function.

B

Bold. A characteristic of a typeface that describes a wider, darker presentation of a typeface character.

C

cache. Cache is used to store printable versions of typefaces.

D

default. Pertaining to an attribute, value, or option that is assumed when none is explicitly stated.

default value. A value assigned when no value has been specified.

diskette. A thin flexible magnetic disk and a semi-rigid protective jacket in which the disk is permanently enclosed. It contains a program or is used for storing data.

diskette drive. A device in the system unit that stores information in, and retrieves information from, removable diskettes.

download. The process of sending printer fonts or PostScript programs to a PostScript printer.

F

font. A set of characters sharing a unified design. A font is the implementation of a design family known as a typeface.

ı

ISO. International Organization for Standardization

italic. A characteristic of a typeface that has upright strokes at an angle to the vertical axis.

K

K. When referring to storage capacity, the exact quantity 1024.

kilobyte (Kb). 1024 bytes; 1K bytes. A measure of computer storage size.

M

menu. A displayed list of items from which a user can make a selection.

0

oblique. A characteristic of a typeface that has upright strokes at an angle to the vertical axis.

option. A device attached to the system unit (either externally or internally) that extends and enhances the operation of the system unit.

P

PostScript. A page description language developed by Adobe Systems Incorporated and interpreted by PostScript printers.

PostScript printer. A printer that contains the PostScript language

interpreter which allows the production of high-quality text and graphics on the a printed page.

printer fonts. A set of character representations that are downloaded to a PostScript printer.

R

Roman. The medium-weight, non-italic member of the typeface family.

S

screen. The display surface.

standard input. The primary source of data going into a command. Standard input comes from the keyboard unless redirection is used, in which case standard input can be from a file or the output from another command.

standard output. The primary destination of data coming from a command. Standard output goes to the display unless redirection is used, in which case standard output can be to a file or another command.

stanza. A group of lines in a file that together have a common function. Stanzas are usually separated by blank lines, and each stanza has a name.

system unit. An element that contains one or more drives for diskette and fixed disk; it also has adapters for optional devices. The system unit does processing and control operations and manages communication between the display

device and the keyboard and other input devices.

T

timeout. An event that occurs at the end of a predetermined period of time that began at the occurrence of another specified event. typeface. The design of characters that distinguishes one typeface from another. An implementation of a given typeface is called a font.

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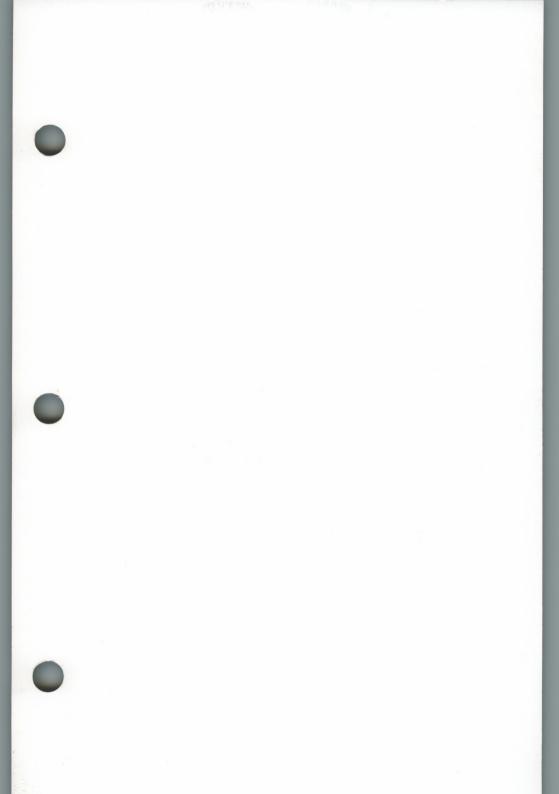
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